

Preliminary Landscape Design

OAK CREEK CANYON

CITY OF CLAYTON
CONTRA COSTA COUNTY, CALIFORNIA

ABBREVIATIONS

PA	PLANTING AREA
CJ	CONTROL JOINT
CDJ	COLD JOINT
EJ	EXPANSION JOINT
CL	CENTER LINE
TC	TOP OF CURB
TW	TOP OF WALL
FG	FINISH GRADE
FS	FINISH SURFACE
RE	RIM ELEVATION
IE	INVERT ELEVATION
TS	TOP OF STEP
BS	BOTTOM OF STEP
R	RADIUS
L	LENGTH
FFE	FINISH FLOOR ELEVATION
TYP.	TYPICAL
DIM. PT.	DIMENSION POINT
EQ.	EQUAL
HP	HIGH POINT
LP	LOW POINT
TC	TOP OF CURB
FC	FACE OF CURB
BC	BACK OF CURB
BSW	BACK OF SIDEWALK
(E)	EXISTING
SL	SLEEVE
PAE	PUBLIC ACCESS EASEMENT
ICP	INTERLOCKING CONCRETE PAVERS
STA	STATION POINT

Project Directory

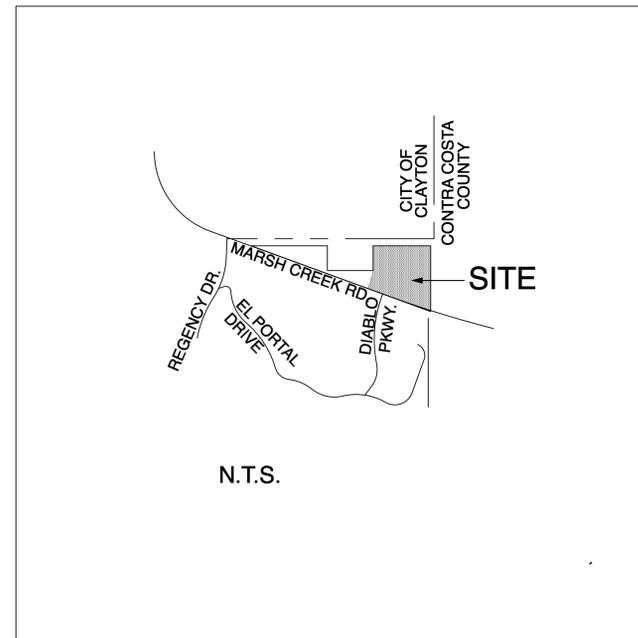
Landscape Architects:

M D FOTHERINGHAM, LANDSCAPE ARCHITECTS, INC.
1700 North Broadway, Suite 390
Walnut Creek, CA 94596
T/F: 925-939-8292
mdf@mdfotheringham.com

Civil Engineers:

Isakson & Assoc. Inc.
2255 Ygnacio Valley Rd
Walnut Creek, CA 94598
Telephone: 925-937-9333 Fax: 925-937-7926

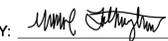
Vicinity Map



Sheet Index

L1	COVER SHEET
L2	LANDSCAPE LAYOUT PLAN
L3	FENCING PLAN
L4	HYDROZONE PLAN 1
L5	HYDROZONE PLAN 2
L6	PLANTING PLAN 1
L7	PLANTING PLAN 2 & PLANT SCHEDULE
L8	CONSTRUCTION DETAILS 1
L9	CONSTRUCTION DETAILS 2
L10	WELO CALCULATIONS 1
L11	WELO CALCULATIONS 2
L12	IRRIGATION PARAMETERS & WELO CALCULATIONS 3

This Project complies with applicable aspects of the State Water Efficiency Landscape Ordinance AB 1881. Planting and irrigation design features are in accordance with the efficient use of water in the landscape design plan. Drought restrictions in effect as of December 15, 2015 have been applied.

BY:  DATE: 3/10/2020

MICHAEL FOTHERINGHAM, LANDSCAPE ARCHITECT, CA #2481

Approvals

APPROVED:	
COMMUNITY DEVELOPMENT DIRECTOR	DATE
CITY ENGINEER	DATE
MAINTENANCE DEPARTMENT	DATE

CONSTRUCTION NOTES:

- THESE NOTES ARE PROVIDED IN CONJUNCTION WITH THE PROJECT SPECIFICATIONS.
- Owner: West Coast Home Builders, Inc. Contact: Kevin English at (925) 671-7711.
 - Landscape Contractor shall review all existing site conditions prior to submitting bids and prior to commencing installation. Bring any discrepancies or conflicts in field conditions that impede installation to the attention of the Owner.
 - Landscape Contractor shall notify Owner and City as required a minimum of 48 hours prior to beginning construction.
 - All work associated with these construction documents shall be installed in conformance with all applicable local codes and ordinances, by experienced workforce under the supervision of a licensed Landscape Contractor. Landscape Contractor shall obtain all necessary permits and pay all required fees as determined by Owner.
 - The developer shall maintain all landscaped areas, within and adjacent to the subdivision, both new and modified, for a period of 90 days after acceptance of the subdivision improvements by the City Council. Prior to release of the Developer's maintenance responsibilities, all landscaped areas shall be inspected by representatives of the City Engineer and Maintenance Departments. This inspection shall include a water audit of the landscaped areas to identify any irrigation problems. The water audit shall be performed by City staff or contracted for by City staff and paid for by the Developer, at the City's sole discretion. All corrective measures shall be made as called for in the water audit and the punch list prepared by City staff and as-built plans, on reproducible mylars, shall be submitted to the City Engineer prior to the release of the Developer's responsibilities.
 - Landscape Contractor shall schedule regular site visits by City representatives and/or Owner throughout landscape construction, with a final site review and inspection required by the Owner prior to beginning the 90-day maintenance period.
 - Costs incurred due to repair, restoration or replacement of existing improvements which are not designated for removal which are damaged as a result of installation operations shall be the responsibility of the Landscape Contractor.
 - Landscape Contractor shall become familiar with site conditions and location of all new construction, and to coordinate irrigation work with other contractors in locating and installing pipe sleeves through walls and under paving, structures, etc.
 - Installation of these improvements shall be coordinated with installation of grading and drain system operations as shown on Civil Engineer's improvement plans, and with architectural plans.
 - All planting areas shall drain to area drains at a minimum of one and one-half (1.5) percent. Slopes within five feet of buildings shall drain a minimum of three-to-five (3-5) percent away from building walls and foundations. Landscape Contractor shall adjust drain heights, add drains or adjust minimum surface gradients, if needed, to ensure adequate drainage.
 - Piping, sleeves, valves, and other irrigation equipment shall be installed in parkway strip planting areas. Avoid any conflicts between the sprinkler system, planting, underground utilities and architectural features. IRRIGATION EQUIPMENT SHALL NOT BE INSTALLED OR WATER ALLOWED TO DRAIN INTO A NON-IRRIGATED ZONE THREE (3) FEET WIDE IMMEDIATELY ADJACENT TO ANY BUILDING.
 - Do not install the irrigation system when field obstructions, grade differences or dimension discrepancies exist that might conflict with prudent practice and engineering. Bring such conditions to the attention of the Owner. In the event this notification is not performed, the Landscape Contractor shall assume full responsibility for any revisions necessary.
 - Installation of all irrigation and landscaping shall be performed by a licensed contractor. Open trench inspection of the irrigation installation in City right-of-way (and areas to be maintained by the City or its contractor) is subject to approval of the Maintenance Department. Prior to the final inspection by the Maintenance Department, the installation shall be approved by the landscape architect.
 - Notify Owner of any aspects of layout which will not provide sufficient water coverage and do not proceed until notified.
 - Flush and adjust all sprinkler heads for optimum performance and to prevent overspray onto buildings. Select appropriate degree of arc to fit existing conditions and throttle the flow control at each valve or head to obtain optimum operating pressure and coverage.
 - Landscape Contractor to verify water pressure prior to installation and confirm minimum operating pressure shown on the plans.
 - Landscape Contractor shall notify all local jurisdictions as required to schedule trenching, temporary road closings, inspections, and testing of installed backflow prevention device.
 - Prior to trenching, locate underground utilities by calling Underground Service Alert at 1-800-227-2600.
 - Owner to verify with Project structural engineer the structural reinforcement of all slab-on-grade concrete paving.
 - Wood members for fences shall be per details. Bottom and sides of wood posts shall be treated with non-toxic wood preservative to six (6) inches above Finish Grades.
 - Use galvanized metal nails, flashing and coated screws and bolts for all wood connections.

GRADING/DRAIN SYSTEM NOTES:

- It is the intent of the project to achieve a balance of cut and fill. Notify Owner of fine grading conditions that may create an unbalanced situation.
- Preparation of subbase under all paving shall be per soils engineer's geotechnical report.
- All fine grading and drain systems shall be installed in accordance with the soils engineer's geotechnical report and addenda prepared for the site.
- All newly-graded areas in or adjacent to the public right-of-way shall not exceed a 3:1 (horizontal : vertical) ratio.

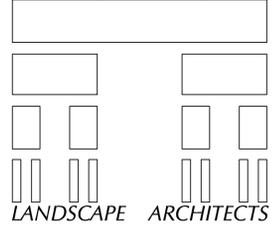
PLANTING NOTES:

- Unless otherwise specified, structural improvements and paving shall be installed prior to planting.
- Landscape Contractor shall be responsible for locating and staking existing sewer, water, cable, telephone and other utilities above or below grade that might be in conflict with planting operations. Notify Owner regarding tree locations affected by utilities.
- All work related to irrigation system installation and testing shall be performed prior to planting operations.
- Plant Schedule shall be used as a guideline only. Contractor shall verify sizes, quantities and availability by plan check and supply sufficient quantities to fulfill design intent of Construction Documents.
- Final locations of plant materials on site shall be reviewed by the Owner's authorized representative prior to installation. Plant trees and shrubs faced to provide best appearance. Care shall be taken to space plant material evenly to allow optimum growth and aesthetics.
- Trees and shrubs shall not be planted in drainage swales, in conflict with structures or to block irrigation patterns.
- Shrub and ground cover areas on slopes less than 20% shall be mulched with a 3-inch thick layer of medium chip walk-on fir bark. Shrub and ground cover areas on slopes greater than 20% shall be mulched with a 3-inch thick layer of shredded fir bark (not gorilla hair). Contractor to submit samples.
- Ground covers shall be planted under trees and shrubs unless otherwise indicated on the plans.
- Trees shall be planted a minimum of three (3) feet from walls, fences, paving, mowstrips, curbs and irrigation heads. Notify Owner or Landscape Architect if soil conditions in plant pits allow water to stand beyond the following limits: 6 inches in bottom of tree pit should drain completely over a 12-hour period. If water does not drain, special provisions for pipe drain, gravel sumps, or drywells will be required to provide adequate tree pit drainage.
- All trees planted within EIGHT (8) feet of paving or curbs, including in-tract street trees, shall be planted with a root guard as approved by City. See Planting Details for panel application.
- All boxed plant material may be approved by the Owner/City at the place of origin prior to delivery.
- Plant materials shall be erect after planting, staked or guyed as detailed. Remove nursery stakes but retain nursery labels until end of maintenance period. Vines shall be installed with vine runners espaliered to adjacent structure. Submit fastener information to Owner for approval prior to installation.
- All trees shall be planted a minimum of five (5) feet (or per local code) from fire hydrants, storm drain, sanitary sewer and other underground utilities. Trees shall be planted a minimum of three (3) feet from curbs. Trees shall be planted a minimum of 15 feet from street light poles and a minimum of 45 feet from the point of intersection of corner curves.
- All plant material and irrigation ultimately to be maintained by the City Maintenance Department or staff contracted by the City:
 - Shall be installed prior to occupancy of the first residence.
 - Is subject to inspection by the Maintenance Department and must be guaranteed for one year from the date of acceptance of the subdivision improvements by the City Council.
- Provide to Owner a soil fertility report prior to applying soil amendments. Soil amendments shall be properly applied and worked into the soil according to the soil fertility report, and prior to ground cover installation. Use the following soil amendments in all planting areas to a depth of 12 inches, and tree pit backfill mix **for bidding purposes only:**

1/3 cubic yard nitrogen-stabilized organic amendment; 2/3 cubic yard well-pulverized native site soil; other amendments and fertilizers as follows (amounts per cubic yard): 17 lbs. Gro Power Plus, 1 lb. Iron Sulfate, 10 lbs. Agricultural Gypsum.
- All back flow devices shall be screened with landscaping.

SEE CITY SPECIFICATIONS FOR ALL LANDSCAPE IMPROVEMENTS WITHIN THE PUBLIC R.O.W. OF THIS PROJECT.

M D FOTHERINGHAM



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License Stamp



Consultants

Project

OAK CREEK CANYON
SUBDIVISION 6826

City of Clayton,
Contra Costa County

Client

WEST COAST HOME BUILDERS, INC.
4021 PORT CHICAGO HIGHWAY
CONCORD, CALIFORNIA

Sheet Title

COVER

VTM SUBMITTAL
NOT FOR CONSTRUCTION

Scale

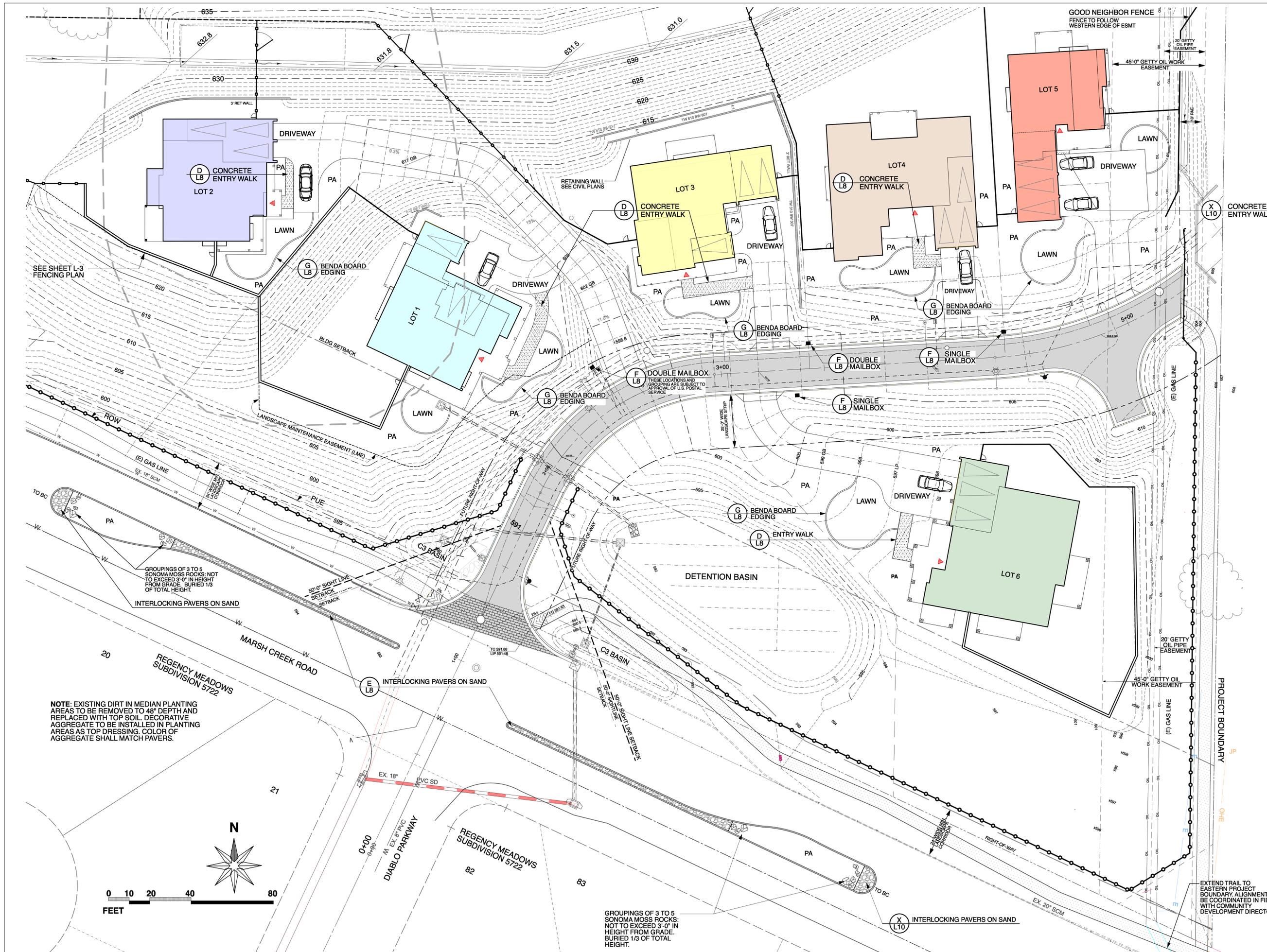
Designed by
MDF / CGW

Drawn by
MDF / CGW

Checked by
MDF

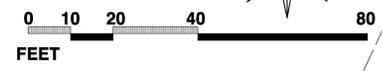
Revisions

Plot Stamp
Date: Tuesday, March 10, 2020
File Name: OakCreekVTMpreland v2020.vrx
Project Number
22110
Sheet Number
L-1



SEE SHEET L-3 FENCING PLAN

NOTE: EXISTING DIRT IN MEDIAN PLANTING AREAS TO BE REMOVED TO 48" DEPTH AND REPLACED WITH TOP SOIL. DECORATIVE AGGREGATE TO BE INSTALLED IN PLANTING AREAS AS TOP DRESSING. COLOR OF AGGREGATE SHALL MATCH PAVERS.



GROUPINGS OF 3 TO 5 SONOMA MOSS ROCKS: NOT TO EXCEED 3'-0" IN HEIGHT FROM GRADE. BURIED 1/3 OF TOTAL HEIGHT.

EXTEND TRAIL TO EASTERN PROJECT BOUNDARY. ALIGNMENT TO BE COORDINATED IN FIELD WITH COMMUNITY DEVELOPMENT DIRECTOR.

M D FOTHERINGHAM

LANDSCAPE ARCHITECTS

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City of Clayton, Contra Costa County

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4021 PORT CHICAGO HIGHWAY
CONCORD, CALIFORNIA

Sheet Title

LAYOUT PLAN

VTM SUBMITTAL NOT FOR CONSTRUCTION

Scale
1" = 20'-0"

Designed by
MDF / CGW

Drawn by
MDF / CGW

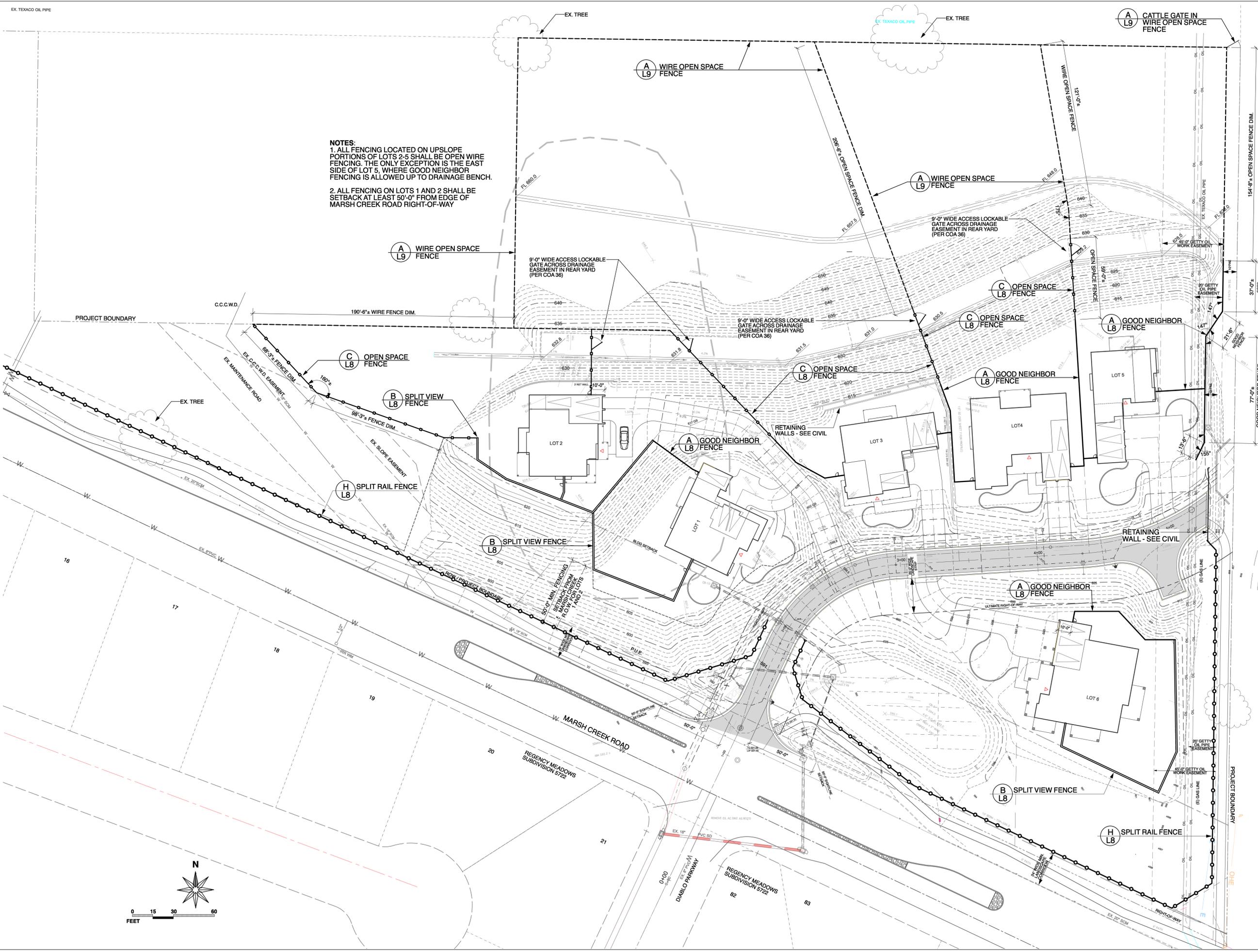
Checked by
MDF

Revisions

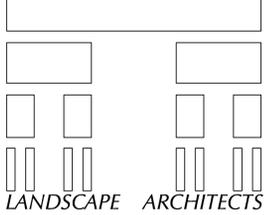
Plot Stamp
Date: Tuesday, March 10, 2020
File name: OakCreekVTMpreland v2020.vrx
Project Number

22110
Sheet Number

L-2



NOTES:
 1. ALL FENCING LOCATED ON UPSLOPE PORTIONS OF LOTS 2-5 SHALL BE OPEN WIRE FENCING. THE ONLY EXCEPTION IS THE EAST SIDE OF LOT 5, WHERE GOOD NEIGHBOR FENCING IS ALLOWED UP TO DRAINAGE BENCH.
 2. ALL FENCING ON LOTS 1 AND 2 SHALL BE SETBACK AT LEAST 50'-0" FROM EDGE OF MARSH CREEK ROAD RIGHT-OF-WAY



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 City of Clayton, Contra Costa County

Client
 WEST COAST HOME BUILDERS, INC.
 4021 FORT CHICAGO HIGHWAY
 CONCORD, CALIFORNIA

Sheet Title
FENCING PLAN

VTM SUBMITTAL
 NOT FOR CONSTRUCTION

Scale
 1" = 30'-0"

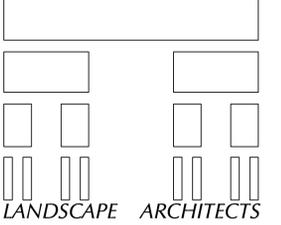
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 MDF / CGW

Drawn by
 MDF / CGW

Checked by
 MDF

Revisions

Plot Stamp
 Date: Tuesday, March 10, 2020
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 Project Number
 22110
 Sheet Number
L-3



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OAK CREEK CANYON
SUBDIVISION 6826

City of Clayton,
 Contra Costa County

Client

WEST COAST HOME BUILDERS, INC.
 4021 FORT CHICAGO HIGHWAY
 CONCORD, CALIFORNIA

Sheet Title

HYDROZONE
PLAN 2

VTM SUBMITTAL
 NOT FOR CONSTRUCTION

Scale
 1" = 30'-0"

Designed by
 MDF / CGW

Drawn by
 MDF / CGW

Checked by
 MDF

Revisions

Plot Stamp

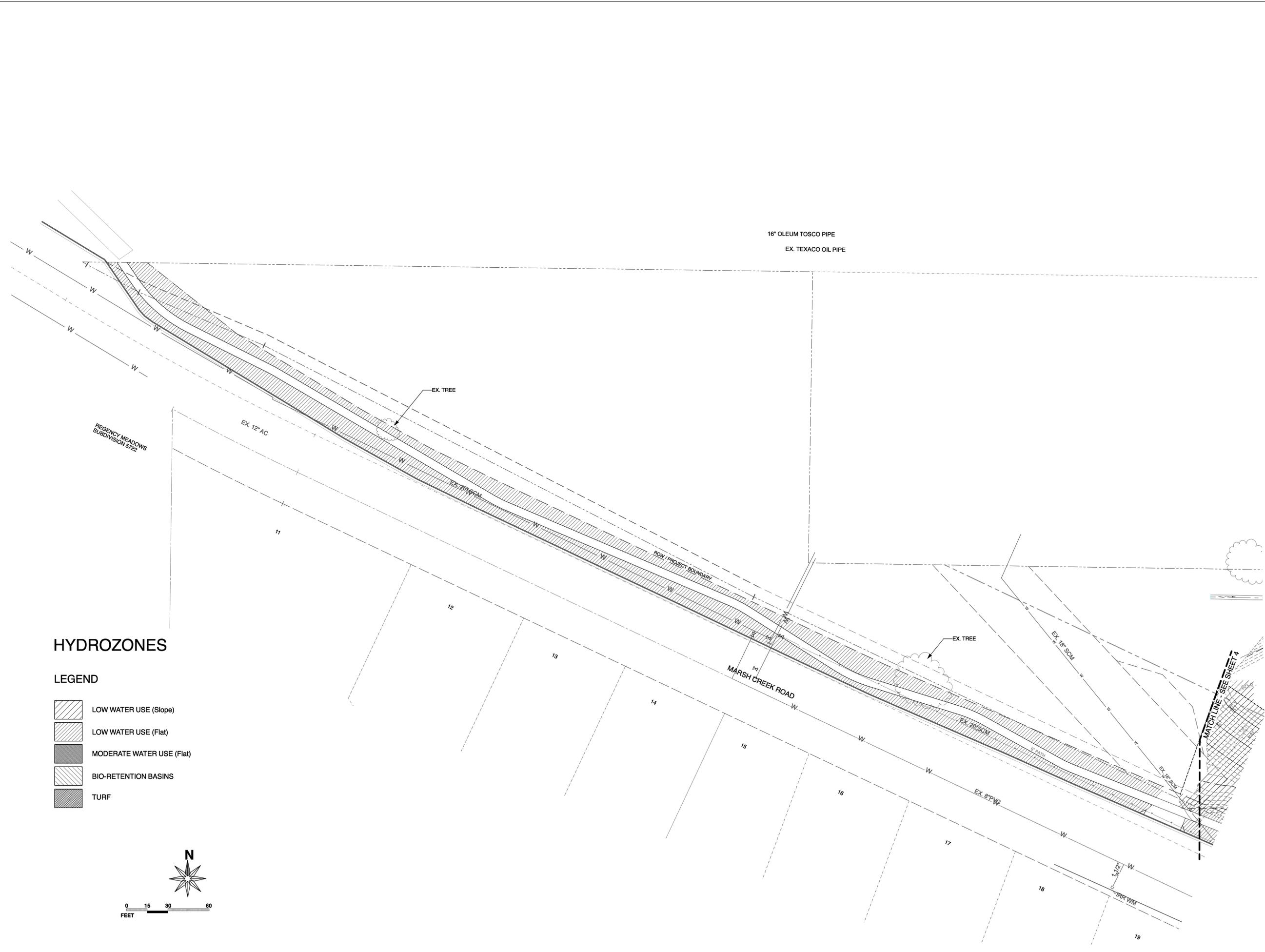
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 File name: OakCreekVTMpreland v2020.rwx

Project Number

22110

Sheet Number

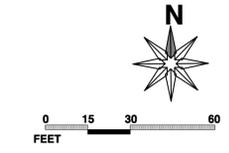
L-5



HYDROZONES

LEGEND

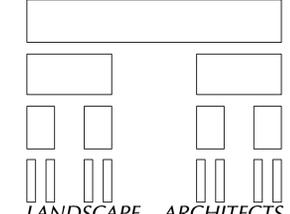
- LOW WATER USE (Slope)
- LOW WATER USE (Flat)
- MODERATE WATER USE (Flat)
- BIO-RETENTION BASINS
- TURF





NOTES:

1. TREES SHALL BE PLANTED AT LEAST 10'-0" FROM GAS, PUBLIC WATER, SEWER AND STORM DRAINS, UNLESS CLOSER LOCATION IS APPROVED BY THE CITY.
2. ALL TREES SHALL BE PLANTED AT LEAST 10 FEET FROM ANY OIL PIPELINE, UNLESS A CLOSER LOCATION IS APPROVED BY PIPELINE EASEMENT HOLDER AND OPERATOR.



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 City of Clayton, Contra Costa County

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 WEST COAST HOME BUILDERS, INC.
 4021 FORT CHICAGO HIGHWAY
 CONCORD, CALIFORNIA

Sheet Title
PLANTING PLAN 1

VTM SUBMITTAL
 NOT FOR CONSTRUCTION

Scale
 1" = 20'-0"

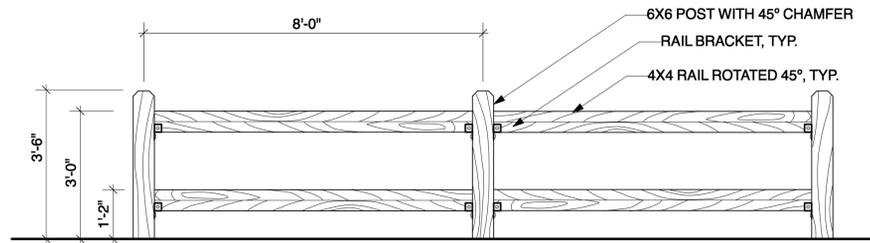
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 MDF

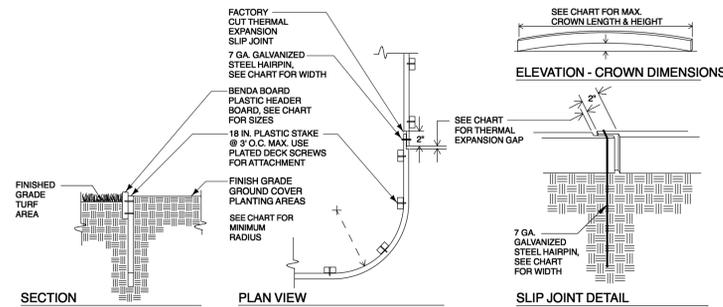
Revisions

Plot Stamp
 Date: Tuesday, March 10, 2020
 File Name: OakCreekVTMpreland v2020.vrx
 Project Number
 22110
 Sheet Number
L-6



- NOTES:
1. RAIL FENCE TO BE USED ONLY AS SHOWN ON PLAN.
 2. ALL WOOD MEMBERS TO BE MINIMUM 2" ACTUAL THICKNESS.
 3. ALL WOOD POSTS TO BE PRESSURE TREATED ROUGH FIR #2 OR BETTER.
 4. ALL WOOD RAILS TO BE FIR #2 OR BETTER.
 5. ALL METAL HARDWARE TO BE HOT DIP GALVANIZED.

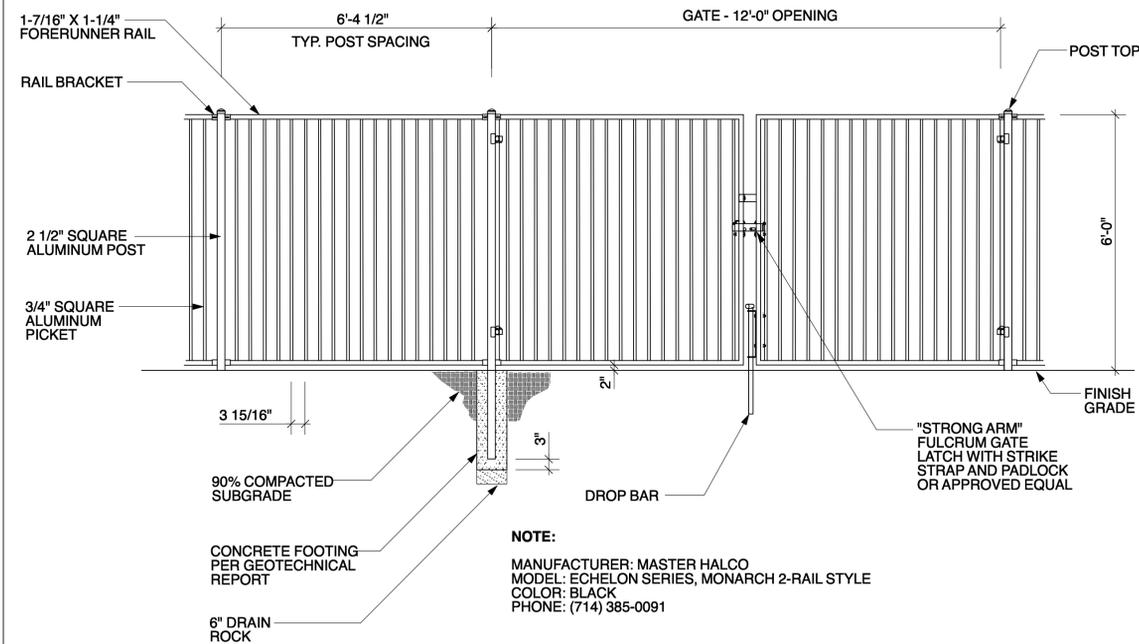
H
L8 RAIL FENCE
1/2" = 1' - 0"



HDR. SIZE	ACTUAL DIMENSIONS	MINIMUM RADIUS POSSIBLE	MAXIMUM CROWN POSSIBLE	THERMAL EXPANSION GAP AT SLIP JOINT	SLIP JOINT HAIRPIN DIMENSIONS
1X4	3 3/8" x 1 1/16" x 20'	24"	19" / 20"	1/4" - 1/2"	3/4" ID x 13"
2X4	3 3/8" x 1 3/8" x 20'	36"	18" / 20"	1/2" - 3/4"	1 1/2" ID x 13"
1X8	5 3/8" x 1 1/16" x 20'	24"	12" / 20"	1/2" - 3/4"	3/4" ID x 13"
2X6	5 3/8" x 1 1/2" x 16'	36"	8" / 16"	1/2" - 3/4"	1 1/2" ID x 13"

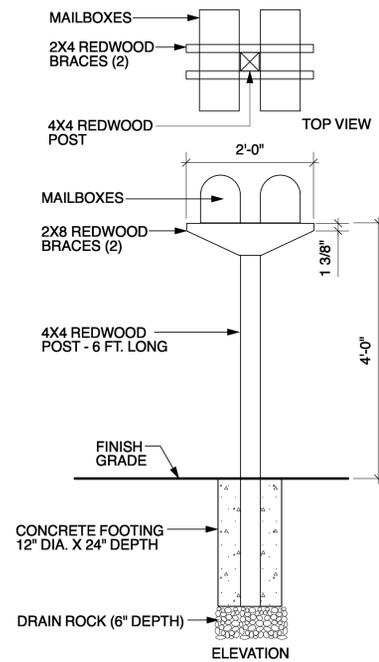
BENDA BOARD CHART
COLOR: "REDWOOD", INCLUDING STAKES
MANUFACTURED BY: EPIC PLASTICS, 104 EAST TURNER RD., LODI CA 95240
URL ADDRESS: www.epicplastics.com

G
L8 BENDA BOARD
PLASTIC HEADER BOARD DETAIL #110
BENDA BOARD IS INTENDED FOR NON-STRUCTURAL USE ONLY
NTS



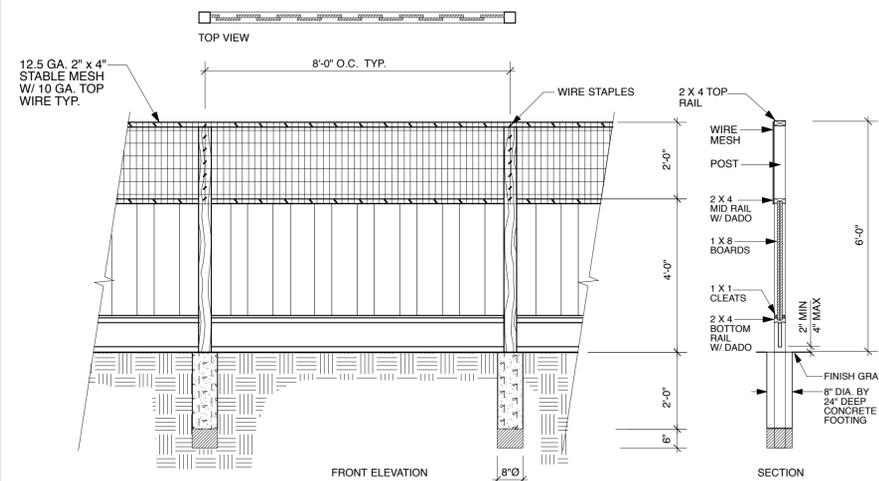
NOTE:
MANUFACTURER: MASTER HALCO
MODEL: ECHELON SERIES, MONARCH 2-RAIL STYLE
COLOR: BLACK
PHONE: (714) 385-0091

C
L8 OPEN SPACE FENCE WITH ACCESS GATE
1/2" = 1' - 0"



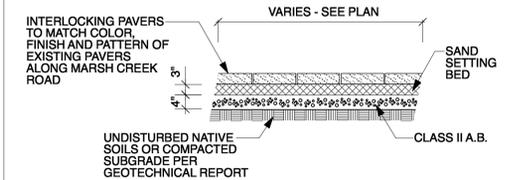
F
L8 DOUBLE MAILBOX
3/4" = 1'-0"

- NOTES:
1. AT LOTS WITH SINGLE MAILBOX, CENTER MAILBOX OVER POST.
 2. MAILBOX LOCATIONS AND DESIGN ARE DEPENDENT UPON GROUPING REQUIREMENTS OF US POSTAL SERVICE. CITY WILL REVIEW DESIGN AFTER USPS DETERMINES LOCATION(S).
 3. ALL WOOD SHALL BE REDWOOD.

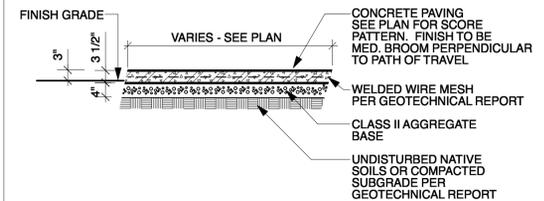


- NOTES:
1. WOVEN WIRE SHALL BE 1972-2-12.5 (STABLE MESH) 1/2 1/2 GAUGE, CLASS 3 GALVANIZED W/ 16 GAUGE TOP WIRE.
 2. POSTS SHALL BE 4 x 4 PRESSURE-TREATED FIR, "CEDARTONE" COLOR OR CEDAR IN 8-FOOT LENGTHS.
 3. POSTS SHALL BE INSTALLED AT 8 FEET ON CENTER, CLOSER IF CONDITIONS REQUIRE, AND SHALL BE PLACED IN A MIN. 8" DIAMETER, 24" DEEP AUGERED HOLES; SET IN CONCRETE.
 4. WOOD OTHER THAN POSTS TO BE CONSTRUCTION COMMON REDWOOD OR CEDAR.
 5. ALL METAL HARDWARE TO HAVE HOT DIPPED GALVANIZED FINISH.

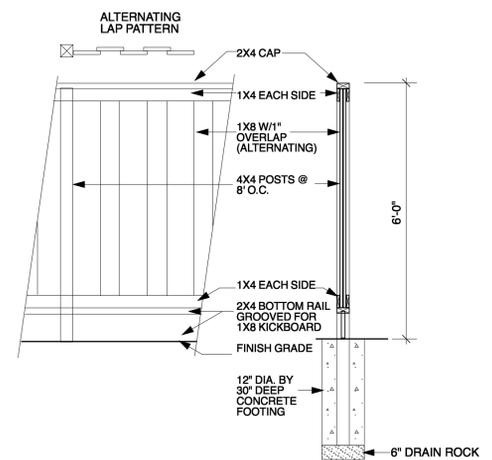
B
L8 SPLIT-VIEW FENCE
1/2" = 1' - 0"



E
L8 INTERLOCKING PAVERS ON SAND
1/2" = 1' - 0"

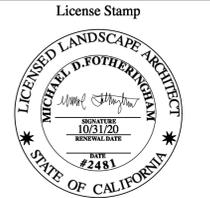


D
L8 CONCRETE WALK
1/2" = 1' - 0"



- NOTES:
1. All wood except posts shall be construction heart redwood or cedar.
 2. All fence posts shall be pressure-treated douglas fir, "Cedartone".
 3. All nails and fasteners shall be hot-dipped galvanized.
 4. Staples will not be allowed.
 5. Nail guns shall be pre-approved by city.

A
L8 GOOD NEIGHBOR FENCE
1/2" = 1' - 0"



Consultants

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City of Clayton, Contra Costa County

Client

WEST COAST HOME BUILDERS, INC.
4021 FORT CHICAGO HIGHWAY
CONCORD, CALIFORNIA

Sheet Title

CONSTRUCTION DETAILS 1

VTM SUBMITTAL
NOT FOR CONSTRUCTION

Scale

Designed by
MDF / CGW

Drawn by
MDF / CGW

Checked by
MDF

Revisions

Plot Stamp
Date: Tuesday, March 10, 2020
File name: OakCreekVTMpreland v2020.vwx

Project Number

22110

Sheet Number

L-8

MAXIMUM APPLIED WATER ALLOWANCE WATER BUDGET CALCULATIONS PROJECT SUMMARY

prepared by MD Fotheringham, Landscape Architects, Inc. 1700 North Broadway, Suite 390, Walnut Creek, CA 94596 925-939-8292

Oak Creek Canyon - Lot 1 Date: 2/27/2020

CITY OF:	Clayton	ETo Location:	Concord
SECTION B1	MAXIMUM APPLIED WATER ALLOWANCE MAWA = ETo x .62 x (.55 x HA) + (.45 x SLA)		
YEARLY ETo			43.4
CONVERSION FACTOR			0.62
ET ADJUSTMENT FACTOR			0.55
TOTAL IRRIGATED LANDSCAPE AREA (HA in Square Feet)			23,476
SPECIAL LANDSCAPE AREA (SLA in Square Feet)			0
MAXIMUM APPLIED WATER ALLOWANCE (gallons/year)			347,431
TOTAL ACRE FEET			1.07
CALCULATIONS:	43.4 x 0.62 x 0.55 x 23,476 + 0.45 x 0 = 347,431		
Effective Precipitation (Eppt)	Use 25% of annual precipitation in the following equation: MAWA = (ETo - Eppt) x .62 x (.55 x HA) + (.45 x SLA)		
YEARLY ETo			43.4
EFFECTIVE PRECIPITATION			0
NET ETo			43.4
CONVERSION FACTOR			0.62
ET ADJUSTMENT FACTOR			0.55
TOTAL IRRIGATED LANDSCAPE AREA (HA in Square Feet)			23,476
SPECIAL LANDSCAPE AREA (SLA in Square Feet)			0
MAXIMUM APPLIED WATER ALLOWANCE (gallons/year)			347,431
TOTAL ACRE FEET			1.07
CALCULATIONS:	43.4 x 0.62 x 0.55 x 23,476 + 0.45 x 0 = 347,431		
RESULTS:	Irrigation reductions by adding precipitation (gallons/year): 0		

WATER EFFICIENCY LANDSCAPE ORDINANCE PROJECT SUMMARY

prepared by MD Fotheringham, Landscape Architects, Inc. 1700 North Broadway, Suite 390, Walnut Creek, CA 94596 925-939-8292

Oak Creek Canyon - Lot 2 Date: 2/27/2020

CITY LOCATION:	Clayton	ETo LOCATION:	Concord
LANDSCAPE ARCHITECT:	Michael Fotheringham, Landscape Architect #2481 CA		
Total Landscape Area (SF)	2,102	Total Calculated Hydrozone Area (SF)	4,939
Annual ETo (inches)	43.4	Total Special Landscape Areas	0
INCLUDED IN THIS PROJECT SUBMITTAL PACKAGE:	(Check to indicate completion)		
X 1	Maximum Applied Water Allowance:	73,094	73,094
X 2	Estimated Total Water Use:	64,639	64,639
X 3	Expected Water Savings:	8,455	8,455
X 4	Hydrozone Report		
X 5	Soil Fertility Analysis		
X 6	Grading Design Plan		
X 7	Planting Design Plan		
X 8	Irrigation Design Plan		
X 9	Irrigation Schedule		
POST-INSTALLATION INSPECTION:			
A	Maintenance Schedule		
B	Irrigation Audit		
C	Plants installed as specified (substitutions accepted)		
D	Irrigation system installed as designed (as-builts included)		
E	Landscape irrigation audit performed		
F	Submit package and this certification package have been provided to owner, building or site manager and local water agency.		

WATER EFFICIENCY LANDSCAPE ORDINANCE PROJECT SUMMARY

prepared by MD Fotheringham, Landscape Architects, Inc. 1700 North Broadway, Suite 390, Walnut Creek, CA 94596 925-939-8292

Oak Creek Canyon - Lot 3 Date: 2/27/2020

CITY LOCATION:	Clayton	ETo LOCATION:	Concord
LANDSCAPE ARCHITECT:	Michael Fotheringham, Landscape Architect #2481 CA		
Total Landscape Area (SF)	1,143	Total Calculated Hydrozone Area (SF)	3,361
Annual ETo (inches)	43.4	Total Special Landscape Areas	0
INCLUDED IN THIS PROJECT SUBMITTAL PACKAGE:	(Check to indicate completion)		
X 1	Maximum Applied Water Allowance:	49,741	49,741
X 2	Estimated Total Water Use:	43,003	43,003
X 3	Expected Water Savings:	6,738	6,738
X 4	Hydrozone Report		
X 5	Soil Fertility Analysis		
X 6	Grading Design Plan		
X 7	Planting Design Plan		
X 8	Irrigation Design Plan		
X 9	Irrigation Schedule		
POST-INSTALLATION INSPECTION:			
A	Maintenance Schedule		
B	Irrigation Audit		
C	Plants installed as specified (substitutions accepted)		
D	Irrigation system installed as designed (as-builts included)		
E	Landscape irrigation audit performed		
F	Submit package and this certification package have been provided to owner, building or site manager and local water agency.		

WATER EFFICIENCY LANDSCAPE ORDINANCE PROJECT SUMMARY

prepared by MD Fotheringham, Landscape Architects, Inc. 1700 North Broadway, Suite 390, Walnut Creek, CA 94596 925-939-8292

Oak Creek Canyon - Lot 1 Date: 2/27/2020

CITY OF:	Clayton	ETo Location:	Concord
SECTION B1	MAXIMUM APPLIED WATER ALLOWANCE MAWA = ETo x .62 x (.55 x HA) + (.45 x SLA)		
YEARLY ETo			43.4
CONVERSION FACTOR			0.62
ET ADJUSTMENT FACTOR			0.55
TOTAL IRRIGATED LANDSCAPE AREA (HA in Square Feet)			23,476
SPECIAL LANDSCAPE AREA (SLA in Square Feet)			0
MAXIMUM APPLIED WATER ALLOWANCE (gallons/year)			347,431
TOTAL ACRE FEET			1.07
CALCULATIONS:	43.4 x 0.62 x 0.55 x 23,476 + 0.45 x 0 = 347,431		
Effective Precipitation (Eppt)	Use 25% of annual precipitation in the following equation: MAWA = (ETo - Eppt) x .62 x (.55 x HA) + (.45 x SLA)		
YEARLY ETo			43.4
EFFECTIVE PRECIPITATION			0
NET ETo			43.4
CONVERSION FACTOR			0.62
ET ADJUSTMENT FACTOR			0.55
TOTAL IRRIGATED LANDSCAPE AREA (HA in Square Feet)			23,476
SPECIAL LANDSCAPE AREA (SLA in Square Feet)			0
MAXIMUM APPLIED WATER ALLOWANCE (gallons/year)			347,431
TOTAL ACRE FEET			1.07
CALCULATIONS:	43.4 x 0.62 x 0.55 x 23,476 + 0.45 x 0 = 347,431		
RESULTS:	Irrigation reductions by adding precipitation (gallons/year): 0		

MAXIMUM APPLIED WATER ALLOWANCE WATER BUDGET CALCULATIONS

prepared by MD Fotheringham, Landscape Architects, Inc. 1700 North Broadway, Suite 390, Walnut Creek, CA 94596 925-939-8292

Oak Creek Canyon - Lot 2 Date: 2/27/2020

CITY OF:	Clayton	ETo Location:	Concord
SECTION B1	MAXIMUM APPLIED WATER ALLOWANCE MAWA = ETo x .62 x (.55 x HA) + (.45 x SLA)		
YEARLY ETo			43.4
CONVERSION FACTOR			0.62
ET ADJUSTMENT FACTOR			0.55
TOTAL IRRIGATED LANDSCAPE AREA (HA in Square Feet)			4,939
SPECIAL LANDSCAPE AREA (SLA in Square Feet)			0
MAXIMUM APPLIED WATER ALLOWANCE (gallons/year)			73,094
TOTAL ACRE FEET			0.22
CALCULATIONS:	43.4 x 0.62 x 0.55 x 4,939 + 0.45 x 0 = 73,094		
Effective Precipitation (Eppt)	Use 25% of annual precipitation in the following equation: MAWA = (ETo - Eppt) x .62 x (.55 x HA) + (.45 x SLA)		
YEARLY ETo			43.4
EFFECTIVE PRECIPITATION			0
NET ETo			43.4
CONVERSION FACTOR			0.62
ET ADJUSTMENT FACTOR			0.55
TOTAL IRRIGATED LANDSCAPE AREA (HA in Square Feet)			4,939
SPECIAL LANDSCAPE AREA (SLA in Square Feet)			0
MAXIMUM APPLIED WATER ALLOWANCE (gallons/year)			73,094
TOTAL ACRE FEET			0.22
CALCULATIONS:	43.4 x 0.62 x 0.55 x 4,939 + 0.45 x 0 = 73,094		
RESULTS:	Irrigation reductions by adding precipitation (gallons/year): 0		

MAXIMUM APPLIED WATER ALLOWANCE WATER BUDGET CALCULATIONS

prepared by MD Fotheringham, Landscape Architects, Inc. 1700 North Broadway, Suite 390, Walnut Creek, CA 94596 925-939-8292

Oak Creek Canyon - Lot 3 Date: 2/27/2020

CITY OF:	Clayton	ETo Location:	Concord
SECTION B1	MAXIMUM APPLIED WATER ALLOWANCE MAWA = ETo x .62 x (.55 x HA) + (.45 x SLA)		
YEARLY ETo			43.4
CONVERSION FACTOR			0.62
ET ADJUSTMENT FACTOR			0.55
TOTAL IRRIGATED LANDSCAPE AREA (HA in Square Feet)			3,361
SPECIAL LANDSCAPE AREA (SLA in Square Feet)			0
MAXIMUM APPLIED WATER ALLOWANCE (gallons/year)			49,741
TOTAL ACRE FEET			0.15
CALCULATIONS:	43.4 x 0.62 x 0.55 x 3,361 + 0.45 x 0 = 49,741		
Effective Precipitation (Eppt)	Use 25% of annual precipitation in the following equation: MAWA = (ETo - Eppt) x .62 x (.55 x HA) + (.45 x SLA)		
YEARLY ETo			43.4
EFFECTIVE PRECIPITATION			0
NET ETo			43.4
CONVERSION FACTOR			0.62
ET ADJUSTMENT FACTOR			0.55
TOTAL IRRIGATED LANDSCAPE AREA (HA in Square Feet)			3,361
SPECIAL LANDSCAPE AREA (SLA in Square Feet)			0
MAXIMUM APPLIED WATER ALLOWANCE (gallons/year)			49,741
TOTAL ACRE FEET			0.15
CALCULATIONS:	43.4 x 0.62 x 0.55 x 3,361 + 0.45 x 0 = 49,741		
RESULTS:	Irrigation reductions by adding precipitation (gallons/year): 0		

ESTIMATED TOTAL WATER USE WATER BUDGET CALCULATIONS

prepared by MD Fotheringham, Landscape Architects, Inc. 1700 North Broadway, Suite 390, Walnut Creek, CA 94596 925-939-8292

Oak Creek Canyon - Lot 1 Date: 2/27/2020

CITY OF:	Clayton	ETo City:	Concord
SECTION B2	ESTIMATED TOTAL WATER USE (ETWU) (gallons per year) ETWU = ETo x .62 x (PF x HA) + (E) + SLA		
Calculate the following for each Hydrozone (HZ):			
YEARLY ETo (inches per year)			43.4
CONVERSION FACTOR (to gallons per square foot)			0.62
Average PF - PLANT FACTOR (plant water demand, defined for each hydrozone)			0.325
TOTAL IRRIGATED LANDSCAPE AREA (HA in Square Feet)			23,476
SPECIAL LANDSCAPE AREA (SLA in Square Feet x .45)			0
Average IE - IRRIGATION EFFICIENCY FACTOR (minimum .75)			0.81
TOTAL ESTIMATED TOTAL WATER USE (gallons/year):			251,341
TOTAL ACRE FEET			0.77
CALCULATIONS:			
Yearly Conversion HZ	HYDROZONE	PLANT FACTOR	Irrigation Efficiency
ETWU	Area	ETWU	Area
43.4	0.62	1	0.325
43.4	0.62	2	0.325
43.4	0.62	3	0.325
43.4	0.62	4	0.325
43.4	0.62	5	0.325
TOTAL:			
AVERAGE PF:	0.325		
AVERAGE IE:		0.81	
AVERAGE ETAF:			0.40

ESTIMATED TOTAL WATER USE WATER BUDGET CALCULATIONS

prepared by MD Fotheringham, Landscape Architects, Inc. 1700 North Broadway, Suite 390, Walnut Creek, CA 94596 925-939-8292

Oak Creek Canyon - Lot 2 Date: 2/27/2020

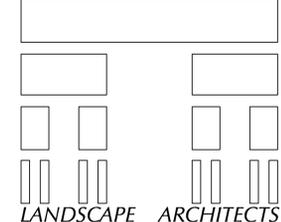
CITY OF:	Clayton	ETo City:	Concord
SECTION B2	ESTIMATED TOTAL WATER USE (ETWU) (gallons per year) ETWU = ETo x .62 x (PF x HA) + (E) + SLA		
Calculate the following for each Hydrozone (HZ):			
YEARLY ETo (inches per year)			43.4
CONVERSION FACTOR (to gallons per square foot)			0.62
Average PF - PLANT FACTOR (plant water demand, defined for each hydrozone)			0.325
TOTAL IRRIGATED LANDSCAPE AREA (HA in Square Feet)			4,939
SPECIAL LANDSCAPE AREA (SLA in Square Feet x .45)			0
Average IE - IRRIGATION EFFICIENCY FACTOR (minimum .75)			0.81
TOTAL ESTIMATED TOTAL WATER USE (gallons/year):			64,639
TOTAL ACRE FEET			0.20
CALCULATIONS:			
Yearly Conversion HZ	HYDROZONE	PLANT FACTOR	Irrigation Efficiency
ETWU	Area	ETWU	Area
43.4	0.62	1	0.325
43.4	0.62	2	0.325
43.4	0.62	3	0.325
43.4	0.62	4	0.325
43.4	0.62	5	0.325
TOTAL:			
AVERAGE PF:	0.325		
AVERAGE IE:		0.81	
AVERAGE ETAF:			0.40

ESTIMATED TOTAL WATER USE WATER BUDGET CALCULATIONS

prepared by MD Fotheringham, Landscape Architects, Inc. 1700 North Broadway, Suite 390, Walnut Creek, CA 94596 925-939-8292

Oak Creek Canyon - Lot 3 Date: 2/27/2020

CITY OF:	Clayton	ETo City:	Concord
SECTION B2	ESTIMATED TOTAL WATER USE (ETWU) (gallons per year) ETWU = ETo x .62 x (PF x HA) + (E) + SLA		
Calculate the following for each Hydrozone (HZ):			
YEARLY ETo (inches per year)			43.4
CONVERSION FACTOR (to gallons per square foot)			0.62
Average PF - PLANT FACTOR (plant water demand, defined for each hydrozone)			0.325
TOTAL IRRIGATED LANDSCAPE AREA (HA in Square Feet)			3,361
SPECIAL LANDSCAPE AREA (SLA in Square Feet x .45)			0
Average IE - IRRIGATION EFFICIENCY FACTOR (minimum .75)			0.81
TOTAL ESTIMATED TOTAL WATER USE (gallons/year):			43,003
TOTAL ACRE FEET			0.13
CALCULATIONS:			
Yearly Conversion HZ	HYDROZONE	PLANT FACTOR	Irrigation Efficiency
ETWU	Area	ETWU	Area
43.4	0.62	1	0.325
43.4	0.62	2	0.325
43.4	0.62	3	0.325
43.4	0.62	4	0.325
43.4	0.62	5	0.325
TOTAL:			
AVERAGE PF:	0.325		
AVERAGE IE:		0.81	
AVERAGE ETAF:			0.40



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Consultants

Project

OAK CREEK CANYON SUBDIVISION 6826

City of Clayton, Contra Costa County

Client

WEST COAST HOME BUILDERS, INC.
4021 PORT CHICAGO HIGHWAY
CONCORD, CALIFORNIA

Sheet Title

WELO CALCULATIONS 1

VTM SUBMITTAL NOT FOR CONSTRUCTION

Scale

Designed by MDF / CGW

Drawn by MDF / CGW

Checked by MDF

Revisions

WATER EFFICIENCY LANDSCAPE ORDINANCE PROJECT SUMMARY

prepared by: MD Fotheringham, Landscape Architects, Inc. 1700 North Broadway, Suite 390, Walnut Creek, CA. 94596 925-939-8292

Oak Creek Canyon - Lot 4 Date: 2/27/2020

CITY LOCATION:	Clayton	E To LOCATION:	Concord
LANDSCAPE ARCHITECT: Michael Fotheringham, Landscape Architect #2481 CA			
Total Landscape Area (SF):	1,341	Total Calculated Hydrozone Area (SF):	3,584
Annual E To (inches):	43.4	Total Special Landscape Areas:	0

INCLUDED IN THIS PROJECT SUBMITTAL PACKAGE: (Check to indicate completion)

	gallons/year without rainfall	gallons/year with rainfall
<input checked="" type="checkbox"/> 1 Maximum Applied Water Allowance:	53,041	53,041
<input checked="" type="checkbox"/> 2 Estimated Total Water Use:	49,491	49,491
<input checked="" type="checkbox"/> 2(a) Expected Water from Effective Precipitation:		0
<input checked="" type="checkbox"/> 3 Expected Water Savings:	3,550	3,550

Note: If the design assumes that a part of the ETWU will be provided by precipitation, the Effective Precipitation Disclosure Statement shall be completed and submitted.

4 Hydrozone Report

5 Soil Fertility Analysis

6 Grading Design Plan

7 Planting Design Plan

8 Irrigation Design Plan

9 Irrigation Schedule

POST-INSTALLATION INSPECTION:

A Maintenance Schedule

B Irrigation Audit

C Plants installed as specified (substitutions accepted)

D Irrigation system installed as designed (as-builts included)

E Landscape irrigation audit performed

F Submittal package and this certification package have been provided to owner, building or site manager and local water agency.

1

MAXIMUM APPLIED WATER ALLOWANCE WATER BUDGET CALCULATIONS

prepared by: MD Fotheringham, Landscape Architects, Inc. 1700 North Broadway, Suite 390, Walnut Creek, CA. 94596 925-939-8292

Oak Creek Canyon - Lot 4 Date: 2/27/2020

CITY OF:	Clayton	E To City:	Concord
SECTION B1 MAXIMUM APPLIED WATER ALLOWANCE MAWA = E To x .62 x (1.55 x HA) + (.45 x SLA)			
YEARLY E To			43.4
CONVERSION FACTOR			0.62
ET ADJUSTMENT FACTOR			0.55
TOTAL IRRIGATED LANDSCAPE AREA (HA in Square Feet)			3,584
SPECIAL LANDSCAPE AREA (SLA in Square Feet)			0
MAXIMUM APPLIED WATER ALLOWANCE (gallons/year)			53,041
TOTAL ACRE FEET			0.16

CALCULATIONS:
43.4 x 0.62 x 0.55 x 3,584 + 0.45 x 0 = **53,041**

Effective Precipitation (Epp)
Use 25% of annual precipitation in the following equation:
MAWA = (E To - Epp) x .62 x (1.55 x HA) + (.45 x SLA)

YEARLY E To	43.4
EFFECTIVE PRECIPITATION	0
NET E To	43.4
CONVERSION FACTOR	0.62
ET ADJUSTMENT FACTOR	0.55
TOTAL IRRIGATED LANDSCAPE AREA (HA in Square Feet)	3,584
SPECIAL LANDSCAPE AREA (SLA in Square Feet)	0
MAXIMUM APPLIED WATER ALLOWANCE (gallons/year)	53,041
TOTAL ACRE FEET	0.16

CALCULATIONS:
43.4 x 0.62 x 0.55 x 3,584 + 0.45 x 0 = **53,041**

RESULTS: Irrigation reductions by adding precipitation (gallons/year): **0**

1

ESTIMATED TOTAL WATER USE WATER BUDGET CALCULATIONS

prepared by: MD Fotheringham, Landscape Architects, Inc. 1700 North Broadway, Suite 390, Walnut Creek, CA. 94596 925-939-8292

Oak Creek Canyon - Lot 4 Date: 2/27/2020

CITY OF:	Clayton	E To City:	Concord
SECTION B2 ESTIMATED TOTAL WATER USE (ETWU) (gallons per year) ETWU = E To x .62 x (PF x HA) / (E) + SLA			
Calculate the following for each Hydrozone (HZ):			
YEARLY E To (inches per year)			43.4
CONVERSION FACTOR (to gallons per square foot)			0.62
Average PF - PLANT FACTOR (plant water demand, defined for each hydrozone)			0.325
TOTAL IRRIGATED LANDSCAPE AREA (HA in Square Feet)			3,584
SPECIAL LANDSCAPE AREA (SLA in Square Feet x .45)			0
Average E - IRRIGATION EFFICIENCY FACTOR (minimum .75)			0.81
TOTAL ESTIMATED TOTAL WATER USE (gallons/year):			49,491
TOTAL ACRE FEET:			0.15

CALCULATIONS:

Yearly	Conversion	HZ	HYDROZONE FACTOR	PLANT FACTOR	Irrigation Efficiency	ETAF	Hydrozone Area	ETWU	%	ETAF
ETU	Factor	NO.	DESCRIPTION	(PF)	Method	(E)	(PF)E (HA) (Sq Ft)	(SqFt)	Area	x Area
43.4	0.62	1	Shrub (SL)	0.30	B	0.81	0.37	774	774	21.6%
43.4	0.62	2	Shrub (SL)	0.30	B	0.81	0.37	1,985	19,852	55.7%
43.4	0.62	3	Shrub (SL)	0.30	B	0.81	0.37	345	4,363	10.7%
43.4	0.62	4	CL (SL)	0.30	B	0.81	0.37	0	0	0%
43.4	0.62	5	Turf (T)	1.00	D	0.90	1.11	909	16,652	41.9%
			Special Landscape Area	0.45				0	0	
TOTALS:								49,491	100.00%	1.000
AVERAGE PF:								0.30		
AVERAGE E:								0.81		
AVERAGE ETAF:									0.81	

1

WATER EFFICIENCY LANDSCAPE ORDINANCE PROJECT SUMMARY

prepared by: MD Fotheringham, Landscape Architects, Inc. 1700 North Broadway, Suite 390, Walnut Creek, CA. 94596 925-939-8292

Oak Creek Canyon - Lot 5 Date: 2/27/2020

CITY LOCATION:	Clayton	E To LOCATION:	Concord
LANDSCAPE ARCHITECT: Michael Fotheringham, Landscape Architect #2481 CA			
Total Landscape Area (SF):	2,895	Total Calculated Hydrozone Area (SF):	4,857
Annual E To (inches):	43.4	Total Special Landscape Areas:	0

INCLUDED IN THIS PROJECT SUBMITTAL PACKAGE: (Check to indicate completion)

	gallons/year without rainfall	gallons/year with rainfall
<input checked="" type="checkbox"/> 1 Maximum Applied Water Allowance:	71,881	71,881
<input checked="" type="checkbox"/> 2 Estimated Total Water Use:	71,555	71,555
<input checked="" type="checkbox"/> 2(a) Expected Water from Effective Precipitation:		0
<input checked="" type="checkbox"/> 3 Expected Water Savings:	325	325

Note: If the design assumes that a part of the ETWU will be provided by precipitation, the Effective Precipitation Disclosure Statement shall be completed and submitted.

4 Hydrozone Report

5 Soil Fertility Analysis

6 Grading Design Plan

7 Planting Design Plan

8 Irrigation Design Plan

9 Irrigation Schedule

POST-INSTALLATION INSPECTION:

A Maintenance Schedule

B Irrigation Audit

C Plants installed as specified (substitutions accepted)

D Irrigation system installed as designed (as-builts included)

E Landscape irrigation audit performed

F Submittal package and this certification package have been provided to owner, building or site manager and local water agency.

1

MAXIMUM APPLIED WATER ALLOWANCE WATER BUDGET CALCULATIONS

prepared by: MD Fotheringham, Landscape Architects, Inc. 1700 North Broadway, Suite 390, Walnut Creek, CA. 94596 925-939-8292

Oak Creek Canyon - Lot 5 Date: 2/27/2020

CITY OF:	Clayton	E To City:	Concord
SECTION B1 MAXIMUM APPLIED WATER ALLOWANCE MAWA = E To x .62 x (1.55 x HA) + (.45 x SLA)			
YEARLY E To			43.4
CONVERSION FACTOR			0.62
ET ADJUSTMENT FACTOR			0.55
TOTAL IRRIGATED LANDSCAPE AREA (HA in Square Feet)			4,857
SPECIAL LANDSCAPE AREA (SLA in Square Feet)			0
MAXIMUM APPLIED WATER ALLOWANCE (gallons/year)			71,881
TOTAL ACRE FEET			0.22

CALCULATIONS:
43.4 x 0.62 x 0.55 x 4,857 + 0.45 x 0 = **71,881**

Effective Precipitation (Epp)
Use 25% of annual precipitation in the following equation:
MAWA = (E To - Epp) x .62 x (1.55 x HA) + (.45 x SLA)

YEARLY E To	43.4
EFFECTIVE PRECIPITATION	0
NET E To	43.4
CONVERSION FACTOR	0.62
ET ADJUSTMENT FACTOR	0.55
TOTAL IRRIGATED LANDSCAPE AREA (HA in Square Feet)	4,857
SPECIAL LANDSCAPE AREA (SLA in Square Feet)	0
MAXIMUM APPLIED WATER ALLOWANCE (gallons/year)	71,881
TOTAL ACRE FEET	0.22

CALCULATIONS:
43.4 x 0.62 x 0.55 x 4,857 + 0.45 x 0 = **71,881**

RESULTS: Irrigation reductions by adding precipitation (gallons/year): **0**

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ESTIMATED TOTAL WATER USE WATER BUDGET CALCULATIONS

prepared by: MD Fotheringham, Landscape Architects, Inc. 1700 North Broadway, Suite 390, Walnut Creek, CA. 94596 925-939-8292

Oak Creek Canyon - Lot 5 Date: 2/27/2020

CITY OF:	Clayton	E To City:	Concord
SECTION B2 ESTIMATED TOTAL WATER USE (ETWU) (gallons per year) ETWU = E To x .62 x (PF x HA) / (E) + SLA			
Calculate the following for each Hydrozone (HZ):			
YEARLY E To (inches per year)			43.4
CONVERSION FACTOR (to gallons per square foot)			0.62
Average PF - PLANT FACTOR (plant water demand, defined for each hydrozone)			0.325
TOTAL IRRIGATED LANDSCAPE AREA (HA in Square Feet)			4,857
SPECIAL LANDSCAPE AREA (SLA in Square Feet x .45)			0
Average E - IRRIGATION EFFICIENCY FACTOR (minimum .75)			0.81
TOTAL ESTIMATED TOTAL WATER USE (gallons/year):			71,555
TOTAL ACRE FEET:			0.22

CALCULATIONS:

Yearly	Conversion	HZ	HYDROZONE FACTOR	PLANT FACTOR	Irrigation Efficiency	ETAF	Hydrozone Area	ETWU	%	ETAF
ETU	Factor	NO.	DESCRIPTION	(PF)	Method	(E)	(PF)E (HA) (Sq Ft)	(SqFt)	Area	x Area
43.4	0.62	1	Shrub (SL)	0.30	B	0.81	0.37	1,985	39,075	54.2%
43.4	0.62	2	Shrub (SL)	0.30	B	0.81	0.37	1,837	16,314	22.7%
43.4	0.62	3	Shrub (SL)	0.30	B	0.81	0.37	255	4,78	6.7%
43.4	0.62	4	CL (SL)	0.30	B	0.81	0.37	0	0	0%
43.4	0.62	5	Turf (T)	1.00	D	0.90	1.11	909	20,858	29.4%
			Special Landscape Area	0.45				0	0	
TOTALS:								71,555	100.00%	2.000
AVERAGE PF:								0.30		
AVERAGE E:								0.81		
AVERAGE ETAF:									0.81	

1

WATER EFFICIENCY LANDSCAPE ORDINANCE PROJECT SUMMARY

prepared by: MD Fotheringham, Landscape Architects, Inc. 1700 North Broadway, Suite 390, Walnut Creek, CA. 94596 925-939-8292

Oak Creek Canyon - Lot 6 Date: 2/27/2020

CITY LOCATION:	Clayton	E To LOCATION:	Concord
LANDSCAPE ARCHITECT: Michael Fotheringham, Landscape Architect #2481 CA			
Total Landscape Area (SF):	8,684	Total Calculated Hydrozone Area (SF):	31,242
Annual E To (inches):	43.4	Total Special Landscape Areas:	0

INCLUDED IN THIS PROJECT SUBMITTAL PACKAGE: (Check to indicate completion)

	gallons/year without rainfall	gallons/year with rainfall
<input checked="" type="checkbox"/> 1 Maximum Applied Water Allowance:	462,363	462,363
<input checked="" type="checkbox"/> 2 Estimated Total Water Use:	339,021	339,021
<input checked="" type="checkbox"/> 2(a) Expected Water from Effective Precipitation:		0
<input checked="" type="checkbox"/> 3 Expected Water Savings:	123,342	123,342

Note: If the design assumes that a part of the ETWU will be provided by precipitation, the Effective Precipitation Disclosure Statement shall be completed and submitted.

4 Hydrozone Report

5 Soil Fertility Analysis

6 Grading Design Plan

7 Planting Design Plan

8 Irrigation Design Plan

9 Irrigation Schedule

POST-INSTALLATION INSPECTION:

A Maintenance Schedule

B Irrigation Audit

C Plants installed as specified (substitutions accepted)

D Irrigation system installed as designed (as-builts included)

E Landscape irrigation audit performed

F Submittal package and this certification package have been provided to owner, building or site manager and local water agency.

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MAXIMUM APPLIED WATER ALLOWANCE WATER BUDGET CALCULATIONS

prepared by: MD Fotheringham, Landscape Architects, Inc. 1700 North Broadway, Suite 390, Walnut Creek, CA. 94596 925-939-8292

Oak Creek Canyon - Lot 6 Date: 2/27/2020

CITY OF:	Clayton	E To City:	Concord
SECTION B1 MAXIMUM APPLIED WATER ALLOWANCE MAWA = E To x .62 x (1.55 x HA) + (.45 x SLA)			
YEARLY E To			43.4
CONVERSION FACTOR			0.62
ET ADJUSTMENT FACTOR			0.55
TOTAL IRRIGATED LANDSCAPE AREA (HA in Square Feet)			31,242
SPECIAL LANDSCAPE AREA (SLA in Square Feet)			0
MAXIMUM APPLIED WATER ALLOWANCE (gallons/year)			462,363
TOTAL ACRE FEET			1.42

CALCULATIONS:
43.4 x 0.62 x 0.55 x 31,242 + 0.45 x 0 = **462,363**

Effective Precipitation (Epp)
Use 25% of annual precipitation in the following equation:
MAWA = (E To - Epp) x .62 x (1.55 x HA) + (.45 x SLA)

YEARLY E To	43.4
EFFECTIVE PRECIPITATION	0
NET E To	43.4
CONVERSION FACTOR	0.62
ET ADJUSTMENT FACTOR	0.55
TOTAL IRRIGATED LANDSCAPE AREA (HA in Square Feet)	31,242
SPECIAL LANDSCAPE AREA (SLA in Square Feet)	0
MAXIMUM APPLIED WATER ALLOWANCE (gallons/year)	462,363
TOTAL ACRE FEET	1.42

CALCULATIONS:
43.4 x 0.62 x 0.55 x 31,242 + 0.45 x 0 = **462,363**

RESULTS: Irrigation reductions by adding precipitation (gallons/year): **0**

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ESTIMATED TOTAL WATER USE WATER BUDGET CALCULATIONS

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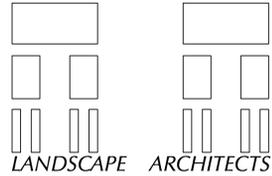
Oak Creek Canyon - Lot 6 Date: 2/27/2020

CITY OF:	Clayton	E To City:	Concord
SECTION B2 ESTIMATED TOTAL WATER USE (ETWU) (gallons per year) ETWU = E To x .62 x (PF x HA) / (E) + SLA			
Calculate the following for each Hydrozone (HZ):			
YEARLY E To (inches per year)			43.4
CONVERSION FACTOR (to gallons per square foot)			0.62
Average PF - PLANT FACTOR (plant water demand, defined for each hydrozone)			0.325
TOTAL IRRIGATED LANDSCAPE AREA (HA in Square Feet)			31,242
SPECIAL LANDSCAPE AREA (SLA in Square Feet x .45)			0
Average E - IRRIGATION EFFICIENCY FACTOR (minimum .75)			0.81
TOTAL ESTIMATED TOTAL WATER USE (gallons/year):			339,021
TOTAL ACRE FEET:			1.04

CALCULATIONS:

Yearly	Conversion	HZ	HYDROZONE FACTOR	PLANT FACTOR	Irrigation Efficiency	ETAF	Hydrozone Area	ETWU	%	ETAF
ETU	Factor	NO.	DESCRIPTION	(PF)	Method	(E)	(PF)E (HA) (Sq Ft)	(SqFt)	Area	x Area
43.4	0.62	1	Shrub (SL)	0.30	B	0.81	0.37	13,544	70,722	20.5%
43.4	0.62	2	Shrub (SL)	0.30	B	0.81	0.37	19,237	161,917	47.2%
43.4	0.62	3	Shrub (SL)	0.30	B	0.81	0.37	1,106	22,845	6.7%
43.4	0.62	4	CL (SL)	0.30	B	0.81	0.37	0	0	0%
43.4	0.62	5	Turf (T)	1.00	D	0.90	1.11	909	24,516	7.2%
			Special Landscape Area	0.45				0	0	
TOTALS:								339,021	100.00%	12.880
AVERAGE PF:								0.30		
AVERAGE E:								0.81		
AVERAGE ETAF:									0.81	

1



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Consultants

Project

OAK CREEK CANYON SUBDIVISION 6826

City of Clayton, Contra Costa County

Client

WEST COAST HOME BUILDERS, INC.
4021 PORT CHICAGO HIGHWAY
CONCORD, CALIFORNIA

Sheet Title

WELO CALCULATIONS 2

VTM SUBMITTAL NOT FOR CONSTRUCTION

Scale

Designed by MDF / CGW

Drawn by MDF / CGW

Checked by MDF

Revisions

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